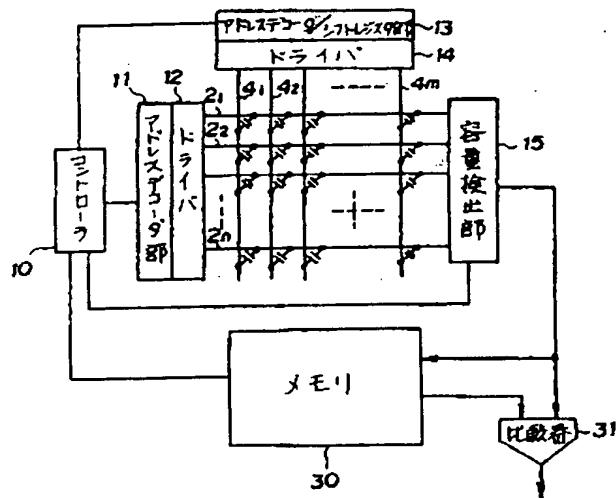


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Patent Abstracts of Jap

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 APPLICATION NUMBER : 61063492
 APPLICANT : MITSUBISHI ELECTRIC CORP;
 INVENTOR : IWATA SHUJI;
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 G09G 3/36
 TITLE : LIQUID CRYSTAL DISPLAY DEVICE
 PROVIDED WITH INPUT FUNCTION



ABSTRACT : PURPOSE: To detect the position of an input pen while electrically displaying optional graphics and characters in liquid crystal cells by providing the titled device with a memory for storing the capacity information of respective picture elements of a liquid crystal cell part and a means for comparing the capacity information of an optional picture element of the liquid crystal cell part with that of a corresponding picture element in the memory.

CONSTITUTION: Transparent and opaque parts on the liquid crystal cells correspond to '1' and '0' in the memory 30 at the rate of 1 to 1 and heater electrodes 21~2_n and signal electrodes 4₁~4_n are successively scanned to detect the capacity values of respective picture elements by a capacity detecting part 15. At that time, the capacity value information in the memory 30 corresponding to the picture element detected by the detecting part 15 is simultaneously read out. The comparator 31 compares the capacity value information outputted from the detecting part 15 with that read out from the memory 30, and when both the values are different as the result of comparison, outputs a mismatch signal and new capacity value information outputted from the detecting part 15 is written in the memory 30. Namely, the position of the input pen can be accurately detected while displaying an image by distinguishing picture element capacity value change due to image display from that due to the input pen.

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